

# **RESULTS OF THE 1993 NATIONAL SURVEY OF COLLEGE GRADUATES MODAL STUDY**

**Donald Keathley, Caroline Riker, Lloyd Hicks**

## **INTRODUCTION**

This memorandum describes the results of the 1993 National Survey of College Graduates (NSCG) modal study. The modal study compares estimates between the interview mode groups (mail and telephone) of the NSCG. We calculated all estimates using unedited survey data. Only persons having a bachelor's or master's degree at the time of the 1990 census are included in the modal study; persons with PhDs were excluded. The mail group was contacted using two mail phases, a telephone follow-up phase, and a personal visit follow-up phase. The telephone group was contacted using only a telephone phase and personal visit follow-up phase. This study uses data collected through the CATI phase. If there is any interest, it could be extended to include personal-visit data.

## **MODAL STUDY DESCRIPTION**

We conducted the modal study so we could compare estimates from the mail and telephone groups. We compared estimates for twelve characteristics for five occupation groups. The characteristics are degree level, employment status, work activity, working in field, current occupation, past employment, work area, continuing education, spouse's occupation, urban/rural residency, parent's education, and type of employer. These characteristics were broken down by a number of categories, e.g., a category for employment status is employed, full time. The occupation groups are physical scientists, mathematicians and computer scientists, social scientists and psychologists, engineers, and other (non-scientists and non-engineers). A person's occupation group is determined by his or her occupation at the time of the 1990 census. Estimates are the percentages of an occupation group with a given characteristic, e.g., the percentage of engineers whose highest degree is a master's degree.

We obtained the mail and telephone groups in two broad steps. First, we took a sample of all 1990 census long form recipients. This sample made up the overall NSCG sample. We then divided the non-PhD cases into two subsamples, the telephone and mail groups. We assigned 6,250 cases to the telephone group (1,250 from each occupation group) and the remaining 208,393 cases to the mail group. The sample size for the telephone group was the minimum number needed to detect at least a 5 percent difference between mail and telephone group estimates for each occupation group using a two-tailed test with a 10-percent significance level. We assumed simple random sampling, independence between the two subsamples, and an 80 percent response rate for both groups.

Through the telephone phase of the NSCG survey we achieved the following response rates. The mail group had an overall response rate of 68.1 percent: 55.8 percent responded by mail and 29.7 percent of the remaining cases responded in the telephone follow-up. The response rate for the telephone group was 46.7 percent. The number of completed interviews through the CATI phase was 125,066 for the mail group and 2,616 for the telephone group.

## **ESTIMATION**

We used the same estimation procedure for the mail and telephone groups. The estimation procedure inflated data from each sample to the level of the 1990 census. This involved multiplying the inverse of each person's probability of selection by a ratio adjustment factor. A person's probability of

selection is the inverse of the NSCG probability of selection times a subsampling factor determined during the modal group selection. The ratio adjustment controlled the estimates within each sample to census population totals in 20 sex-education-occupation group cells. Persons who became out of scope since the census were excluded from the 1990 census counts.

## **ANALYSIS**

Attachments A through L show tables with the occupation group/characteristic combinations we are interested in. There is one table for each combination plus a total and total scientist and engineer only table for each characteristic, for a total of 84 tables. Each table shows mail and telephone group estimates for each characteristic, the standard error for each estimate (se), the difference between each pair of estimates (diff), the standard error of the difference (se(diff)), the t statistic (t-stat), and whether the estimates are significantly different from each other (result).

Each table also includes the percentage of persons who did not answer the question or gave an invalid response. These percentages are listed in each table's nonresponse row.

The characteristics presented below are in the same order they are presented in the attachments. Attachment numbers are given for each characteristic.

In the statistical tests of the mail and telephone comparisons, we computed variances assuming simple random sampling for the sake of convenience. We believed, at the time the study was conducted, that the design effects for the various characteristics were greater than one, but we did not have their actual values. Since then, we have computed variances and determined design effects. The average design effect for all characteristics is about 1.6. We did not update the tables to reflect the actual design effects because of time limitations.

Because we assumed simple random sampling, we underestimated the actual variances on average by 60 percent. If we used the actual design effects, those differences that are not significant would still remain not significant, but those that are significant may actually be not significant.

Our analysis focused on determining if there were any significant differences between the mail and telephone group estimates. We mention possible causes for some of the more pronounced differences.

With few exceptions, the mail group had significantly higher item nonresponse rates for the characteristics than the telephone group. However most of the questions had low nonresponse rates for both groups, less than 3 percent. For the questions with significant nonresponse, the chance of a serious nonresponse bias should be considered when trying to explain differences between the mail and phone group estimates.

### **A. Employment Status (Attachments A-1 - A-4)**

From Table I-ES, more persons responded as being employed, full time (71.5 vs. 68.3) and unemployed (2.3 vs. 1.4) in the mail group. More persons responded as being employed, part time (12.7 vs. 10.0) and not in the labor force (17.6 vs. 16.1) in the telephone group. A common mode effect associated with phone surveys is the over reporting of socially desirable answers. The percentage of unemployed persons may have been higher for the mail group due to people not wanting to admit to an

interviewer that they were unemployed. This could explain some but not all of the differences in employment rates.

**B. Type of Employer (Attachments B-1 - B-7)**

There does not appear to be any analytically important differences for type of employer.

**C. Current Occupation (Attachments C-1 - C-4)**

Persons classified as scientists and engineers in the 1990 census responded as currently working in a non-scientist and non-engineer occupation more often in the telephone group (39.1 vs. 31.5, Table II-CO). Persons reported working in the same SE group more often by mail group than by telephone group for 3 of the 4 SE groups (Tables III-CO - VI-CO). The strongest example of this is for psychologists and social scientists. The mail estimate of the percent of persons who were psychologists or social scientists at the time of the census and were still in the field at the time of the NSCG interview was about 23 percent. The comparable number for the phone group was 7 percent.

These differences could have resulted from the question itself. With over 100 job codes to choose from, mail phase respondents from the mail group had the entire list in front of them, which made it easier for them to fill in the appropriate job code. Telephone respondents were asked a series of questions to determine their occupation first. Then the interviewer assigned an occupation code for each respondent.

**D. Working in Field (Attachments D-1 - D-4)**

This is the only question studied where the respondent has to decide where he/she fits on a scale. Is his/her job closely related, somewhat related or not related to his/her field of study. Prior modal study research has shown when vaguely defined scales are used phone respondents tend to pick extreme answers and mail respondents tend to spread themselves more evenly across the choices. Whether this is happening on this question is unclear. Somewhat related, the middle category, is selected more often in the mail for four of the five occupation groups, but not all the differences are significant.

**E. Work Activity (Attachments E-1 - E-7)**

Persons responded more often in the mail group as working primarily in the design of equipment (2.4 vs. 1.4, Table I-WA), employee relations (3.7 vs. 1.6, Table I-WA) and Other (7.7 vs. 5.2, Table I-WA). Persons responded more often in the telephone group as working primarily in quality management (3.3 vs 2.0, Table I-WA) and teaching (20.0 vs. 16.9, Table I-WA). Scientists and engineers responded more often in the telephone group as working primarily in management and administration (15.8 vs. 14.3, Table II-WA).

These differences in the estimates between the mail and telephone groups could be affected by the preciseness of the categories. The more precise the categories the more chance of measurement errors. Persons working in the same areas could be choosing different but similar activities.

Also, the questions were asked slightly different over the telephone than in the mail questionnaire. The mail questionnaire listed all the possible work areas. The next question asked in

which of these areas did you spend the most time. The CATI interviewer asked in which area did you spend the most time and she repeated each area given in the preceding question. Any changes in wording or format can have an impact on the way a question is answered.

Nonresponse for this characteristic is about 3 percent for both groups. This is somewhat higher than for the other characteristics.

**F. Work Area (Attachments F-1 - F-4)**

Persons responded more often in the telephone group as working in an area 'other' than the areas mentioned (79.0 vs. 71.5, Table I-WArea). This pattern was consistent for total scientists and engineers (63.0 vs. 57.1, Table II-WArea) as well as non-scientists and non-engineers (80.5 vs. 72.8, Table VII-WArea).

A reason for the relatively large difference in 'other' estimates could be that telephone respondents tend to choose the last item from a list. Telephone respondents may choose the last item more often because it is the last item they hear, i.e., it's easiest to remember.

**G. Past Employment (Attachments G-1 - G-4)**

More persons responded as having the same employer (49.7 vs. 47.4, Table I-PE) and different employer (35.1 vs. 32.3, Table I-PE) 5 years ago in the mail group. Persons responded as being not employed 5 years ago more often in the telephone group (20.3 vs. 15.2, Table I-PE).

The information for this characteristic was gathered by asking two questions. The first question asked sample persons if they were employed 5 years ago. If they answered yes, they were directed to a second question. The second question asked them if they were employed by the same or a different employer. Several times the second question was mistakenly left unanswered. Since we did not have complete information to classify these people in the tables, we tabulated them as nonrespondents. Sample persons were directed to skip the second question if they were not employed 5 years ago.

The overall nonresponse rate was 4.0 percent for the mail group and 7.5 percent for the telephone group. About 97 percent of the telephone group nonrespondents answered yes to the first question but then didn't answer the second question. This figure is 40 percent for the mail group. The upshot of this is that the estimates of persons not employed in the tables are too high since the employed are disproportionately being excluded for omitting information, especially for the telephone group.

Just looking at responses to the first question, the differences between the (Total) group estimates would narrow:

	Mail	Telephone
Employed	85.4%	81.3%
Not employed	14.6%	18.7%

These differences would still be significant, however.

Additionally, this was the only characteristic where nonresponse was consistently higher for the telephone group.

## **H. Highest Degree (Attachments H-1 - H-4)**

More persons responded as having received a master's degree in the mail group than in the telephone group (25.3 vs. 23.9, Table I-DL). In turn, more persons responded as having received a PhD (since the 1990 census) in the telephone group than in the mail group (2.2 vs. 1.1, Table I-DL). Overall, however, there was no significant difference between the two groups in percentage of persons with at least a master's degree.

## **I. Continuing Education (Attachments I-1 - I-3)**

More persons responded as having taken classes since receiving their most recent degree in the phone group (48.5 vs. 45.0, Table I-CE). This difference was due mostly to the difference in non-scientist and non-engineer estimates.

## **J. Spouse's Occupation (Attachments J-1 - J-4)**

More persons said their spouses were working in a scientist or engineer (SE) field overall (46.7 vs. 44.4, Table I-SO) and full-time (30.6 vs. 24.3, Table I-SO) in the phone group. More persons said their spouses were working in an SE field part-time (20.1 vs. 16.1, Table I-SO) in the mail group.

The magnitude of the differences for full-time (6.3 percent) and part-time (4.0 percent) SE employment is due to the large differences in the non-scientists and non-engineers responses. Non-SEs said their spouses were working more often in an SE field full-time (31.1 vs. 24.4, Table VII-SO) in the phone group; they said their spouses were working more often in an SE field part-time (20.6 vs. 16.1, Table VII-SO) in the mail group.

Nonresponse rates were relatively high for the mail group and were consistently higher than nonresponse rates for the phone group. The overall nonresponse rates were 4.3 percent for the mail group and 0.6 percent for the phone group (Table I-SO). Tables II-SO through VII-SO show the other nonresponse rates.

## **K. Urban/Rural (Attachments K-1 - K-3)**

There do not appear to be any analytically important differences for urban/rural residency.

## **L. Parents' Education (Attachments L-1 - L-7)**

There is some evidence that asking about the respondent's parents' level of education on the phone is resulting in an estimate at a higher level than by mail. 20.4 percent of persons from the mail group said their mother had earned a bachelor's degree and 31.4 percent said their father had a bachelor's degree. The comparable numbers for the phone group were 22.5 percent and 34.1 percent.

Employment Status – Questions A2 & A7

Table I-ES: Total								
Percentage of persons that are:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Employed	81.5%	0.1%	81.0%	0.8%	0.5%	0.8%	0.645	
Full Time	71.5%	0.1%	68.3%	0.9%	3.2%	0.9%	3.482	Diff
Part Time	10.0%	0.1%	12.7%	0.7%	-2.7%	0.7%	4.111	Diff
Unemployed	2.3%	0.04%	1.4%	0.2%	0.9%	0.2%	3.851	Diff
Not in the Labor Force	16.1%	0.1%	17.6%	0.7%	-1.5%	0.8%	1.994	Diff
Non-response	0.5%	0.02%	0.4%	0.1%	0.1%	0.1%	0.801	

9

Table II-ES: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers that are:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Employed	87.0%	0.2%	86.9%	0.7%	0.1%	0.8%	0.133	
Full Time	81.6%	0.2%	80.6%	0.8%	1.0%	0.9%	1.136	
Part Time	5.4%	0.1%	6.3%	0.5%	-0.9%	0.5%	1.669	Diff
Unemployed	2.7%	0.1%	2.3%	0.3%	0.4%	0.3%	1.189	
Not in the Labor Force	10.5%	0.2%	10.7%	0.7%	-0.2%	0.7%	0.290	
Non-response	0.3%	0.03%	0.02%	0.03%	0.28%	0.04%	6.680	Diff

Employment Status – Questions A2 & A7 (cont'd)

Table V-ES: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists that are:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Employed	87.2%	0.7%	89.7%	1.3%	-2.5%	1.5%	1.672	Diff
Full Time	73.9%	0.9%	72.8%	2.0%	1.1%	2.2%	0.512	
Part Time	13.3%	0.7%	16.9%	1.7%	-3.6%	1.8%	2.016	Diff
Unemployed	2.5%	0.3%	1.3%	0.5%	1.2%	0.6%	2.043	Diff
Not in the Labor Force	10.3%	0.6%	9.0%	1.3%	1.3%	1.4%	0.929	
Non-response	0.4%	0.1%	0.2%	0.2%	0.2%	0.2%	0.859	

7

Table VI-ES: Engineers								
Percentage of Engineers that are:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Employed	86.0%	0.3%	85.5%	1.5%	0.5%	1.5%	0.331	
Full Time	82.5%	0.3%	81.1%	1.7%	1.4%	1.7%	0.833	
Part Time	3.5%	0.1%	4.4%	0.9%	-0.9%	0.9%	1.025	
Unemployed	2.8%	0.1%	2.7%	0.7%	0.1%	0.7%	0.144	
Not in the Labor Force	11.2%	0.2%	11.8%	1.4%	-0.6%	1.4%	0.433	
Non-response	0.3%	0.04%	0%	0%	0.3%	0.04%	7.051	Diff

Employment Status – Questions A2 & A7 (cont'd)

Table VII-ES: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers that are:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Employed	81.0%	0.1%	80.5%	1.9%	0.5%	1.9%	0.267	
Full Time	70.7%	0.1%	67.3%	2.2%	3.4%	2.2%	1.532	
Part Time	10.3%	0.1%	13.2%	1.6%	-2.9%	1.6%	1.812	Diff
Unemployed	2.3%	0.05%	1.3%	0.5%	1.0%	0.5%	1.863	Diff
Not in the Labor Force	16.7%	0.1%	18.2%	1.8%	-1.5%	1.8%	0.822	
Non-response	0.5%	0.02%	0.4%	0.3%	0.1%	0.3%	0.335	

Type of Employer – Questions A12 & A13

Table I-TE: Total								
Percentage of persons who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	23.6%	0.1%	25.3%	0.9%	-1.7%	0.9%	1.836	Diff
Elementary, Middle, Secondary School	15.7%	0.1%	16.3%	0.8%	-0.6%	0.8%	0.762	
2-year College, Junior College, Technical Institute	1.1%	0.03%	1.3%	0.2%	-0.2%	0.2%	0.830	
4-year College, Medical School, University- affiliated Research Institute	5.0%	0.1%	5.5%	0.5%	-0.5%	0.5%	1.030	
Other	1.8%	0.04%	2.2%	0.3%	-0.4%	0.3%	1.282	
Non-educational Institution	76.4%	0.1%	74.8%	0.9%	1.6%	0.9%	1.730	Diff
Private Sector	49.6%	0.2%	51.1%	1.1%	-1.5%	1.1%	1.408	
Self-employed	14.0%	0.1%	14.1%	0.7%	-0.1%	0.7%	0.135	
Government, including Military	11.0%	0.1%	9.0%	0.6%	2.0%	0.6%	3.272	Diff
Other	1.8%	0.04%	0.6%	0.2%	1.2%	0.2%	7.141	Diff
Non-response	0.7%	0.02%	0.1%	0.1%	0.6%	0.1%	8.393	Diff

Type of Employer – Questions A12 & A13 (cont'd)

Table II-TE: Total Scientists and Engineers Only								
Percentage of persons who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	6.8%	0.2%	7.2%	0.6%	-0.4%	0.6%	0.650	
Elementary, Middle, Secondary School	1.7%	0.1%	2.0%	0.3%	-0.3%	0.3%	0.903	
2-year College, Junior College, Technical Institute	0.6%	0.05%	0.8%	0.2%	-0.2%	0.2%	0.949	
4-year College, Medical School, University- affiliated Research Institute	3.8%	0.1%	3.8%	0.4%	0%	0.5%	0	
Other	0.7%	0.1%	0.6%	0.2%	0.1%	0.2%	0.539	
Non-educational Institution	93.3%	0.2%	92.7%	0.6%	0.6%	0.6%	0.969	
Private Sector	67.8%	0.3%	67.2%	1.1%	0.6%	1.1%	0.536	
Self-employed	6.9%	0.2%	6.4%	0.6%	0.5%	0.6%	0.854	
Government, including Military	16.5%	0.2%	16.4%	0.9%	0.1%	0.9%	0.113	
Other	2.1%	0.1%	2.7%	0.4%	-0.6%	0.4%	1.564	
Non-response	0.4%	0.04%	0.1%	0.1%	0.3%	0.1%	3.611	Diff

Type of Employer – Questions A12 & A13 (cont'd)

Table III-TE: Physical Education								
Percentage of Physical Scientists who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	13.9%	0.6%	12.9%	1.6%	1.0%	1.7%	0.587	
Elementary, Middle, Secondary School	0.7%	0.2%	1.2%	0.5%	-0.5%	0.5%	0.934	
2-year College, Junior College, Technical Institute	0.9%	0.2%	0.7%	0.4%	0.2%	0.4%	0.465	
4-year College, Medical School, University- affiliated Research Institute	11.2%	0.6%	10.5%	1.4%	0.7%	1.6%	0.449	
Other	1.1%	0.2%	0.5%	0.3%	0.6%	0.4%	1.560	
Non-educational Institution	86.2%	0.6%	87.2%	1.6%	-1.0%	1.7%	0.589	
Private Sector	50.4%	0.9%	53.7%	2.3%	-3.3%	2.5%	1.307	
Self-employed	6.5%	0.5%	3.7%	0.9%	2.8%	1.0%	2.800	Diff
Government, including Military	28.0%	0.8%	27.1%	2.1%	0.9%	2.3%	0.399	
Other	1.3%	0.2%	2.7%	0.8%	-1.4%	0.8%	1.768	Diff
Non-response	0.3%	0.1%	0%	0%	0.3%	0.1%	2.956	Diff

Type of Employer – Questions A12 & A13 (cont'd)

Table IV-TE: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	7.8%	0.4%	9.3%	1.3%	-1.5%	1.3%	1.115	
Elementary, Middle, Secondary School	1.4%	0.2%	1.6%	0.6%	-0.2%	0.6%	0.344	
2-year College, Junior College, Technical Institute	1.2%	0.2%	1.5%	0.5%	-0.3%	0.6%	0.534	
4-year College, Medical School, University-affiliated Research Institute	4.5%	0.3%	5.5%	1.0%	-1.0%	1.1%	0.948	
Other	0.7%	0.1%	0.7%	0.4%	0%	0.4%	0	
Non-educational Institution	92.3%	0.4%	90.8%	1.3%	1.5%	1.3%	1.121	
Private Sector	71.3%	0.6%	70.7%	2.0%	0.6%	2.1%	0.283	
Self-employed	5.7%	0.3%	5.2%	1.0%	0.5%	1.0%	0.481	
Government, including Military	13.3%	0.5%	12.7%	1.5%	0.6%	1.6%	0.386	
Other	2.0%	0.2%	2.2%	0.7%	-0.2%	0.7%	0.294	
Non-response	0.3%	0.1%	0%	0%	0.3%	0.1%	3.958	Diff

Type of Employer – Questions A12 & A13 (cont'd)

Table V-TE: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	17.5%	0.8%	18.2%	1.8%	-0.7%	2.0%	0.355	
Elementary, Middle, Secondary School	9.9%	0.6%	9.9%	1.4%	0%	1.5%	0	
2-year College, Junior College, Technical Institute	0.9%	0.2%	0.8%	0.4%	0.1%	0.5%	0.217	
4-year College, Medical School, University-affiliated Research Institute	4.3%	0.4%	4.1%	0.9%	0.2%	1.0%	0.196	
Other	2.4%	0.3%	3.4%	0.8%	-1.0%	0.9%	1.103	
Non-educational Institution	82.4%	0.8%	81.8%	1.8%	0.6%	2.0%	0.304	
Private Sector	48.2%	1.1%	49.4%	2.3%	-1.2%	2.6%	0.468	
Self-employed	17.4%	0.8%	16.0%	1.7%	1.4%	1.9%	0.740	
Government, including Military	14.3%	0.7%	15.5%	1.7%	-1.2%	1.9%	0.650	
Other	2.5%	0.3%	0.9%	0.4%	1.6%	0.6%	2.902	Diff
Non-response	1.0%	0.2%	0%	0%	1.0%	0.2%	4.772	Diff

Type of Employer – Questions A12 & A13 (cont'd)

Table VI-TE: Engineers								
Percentage of Engineers who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	2.4%	0.1%	2.8%	0.8%	-0.4%	0.8%	0.523	
Elementary, Middle, Secondary School	0.3%	0.05%	0.7%	0.4%	-0.4%	0.4%	1.041	
2-year College, Junior College, Technical Institute	0.2%	0.04%	0.6%	0.4%	-0.4%	0.4%	1.126	
4-year College, Medical School, University-affiliated Research Institute	1.7%	0.1%	1.5%	0.6%	0.2%	0.6%	0.353	
Other	0.2%	0.04%	0%	0%	0.2%	0.04%	5.318	Diff
Non-educational Institution	97.6%	0.1%	97.2%	0.8%	0.4%	0.8%	0.523	
Private Sector	74.6%	0.4%	72.9%	2.0%	1.7%	2.1%	0.823	
Self-employed	5.2%	0.2%	5.3%	1.0%	-0.1%	1.0%	0.096	
Government, including Military	15.6%	0.3%	15.7%	1.7%	-0.1%	1.7%	0.059	
Other	2.2%	0.1%	3.3%	0.8%	-1.1%	0.8%	1.331	
Non-response	0.3%	0.05%	0.2%	0.2%	0.1%	0.2%	0.478	

Type of Employer – Questions A12 & A13 (cont'd)

Table VII-TE: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers who work for:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Educational Institution	25.2%	0.2%	26.9%	2.3%	-1.7%	2.4%	0.724	
Elementary, Middle, Secondary School	17.0%	0.1%	17.6%	2.0%	-0.6%	2.0%	0.297	
2-year College, Junior College, Technical Institute	1.1%	0.04%	1.3%	0.6%	-0.2%	0.6%	0.333	
4-year College, Medical School, University-affiliated Research Institute	5.1%	0.1%	5.7%	1.2%	-0.6%	1.2%	0.489	
Other	2.0%	0.1%	2.3%	0.8%	-0.3%	0.8%	0.378	
Non-educational Institution	74.8%	0.2%	73.1%	2.3%	1.7%	2.4%	0.724	
Private Sector	47.9%	0.2%	49.6%	2.6%	-1.7%	2.7%	0.642	
Self-employed	14.6%	0.1%	14.8%	1.9%	-0.2%	1.9%	0.106	
Government, including Military	10.5%	0.1%	8.3%	1.5%	2.2%	1.5%	1.505	
Other	1.8%	0.05%	0.4%	0.3%	1.4%	0.3%	4.155	Diff
Non-response	0.7%	0.03%	0.1%	0.2%	0.6%	0.2%	3.541	Diff

Current Occupation – Question A15

Table I-CO: Total								
Percentage of persons that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	1.8%	0.04%	1.5%	0.3%	0.3%	0.3%	1.155	
Mathematicians or Computer Scientists	3.5%	0.1%	4.7%	0.4%	-1.2%	0.5%	2.667	Diff
Psychologists or Social Scientists	0.7%	0.03%	1.1%	0.2%	-0.4%	0.2%	1.806	Diff
Engineers	6.7%	0.1%	5.2%	0.5%	1.5%	0.5%	3.160	Diff
Non-scientists and Non-engineers	87.2%	0.1%	87.5%	0.7%	-0.3%	0.7%	0.425	
Non-response	0.05%	0.01%	0.1%	0.1%	-0.05%	0.07%	0.747	

Table II-CO: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	7.5%	0.2%	7.2%	0.6%	0.3%	0.6%	0.486	
Mathematicians or Computer Scientists	11.6%	0.2%	13.0%	0.8%	-1.4%	0.8%	1.750	Diff
Psychologists or Social Scientists	2.4%	0.1%	1.3%	0.3%	1.1%	0.3%	3.954	Diff
Engineers	47.0%	0.3%	39.4%	1.1%	7.6%	1.2%	6.507	Diff
Non-scientists and Non-engineers	31.5%	0.3%	39.1%	1.1%	-7.6%	1.2%	6.548	Diff
Non-response	0.05%	0.01%	0.1%	0.1%	-0.05%	0.1%	0.675	

Current Occupation – Question A15 (cont'd)

Table III-CO: Physical Scientists								
Percentage of Physical Scientists that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	58.2%	0.9%	48.4%	2.4%	9.8%	2.5%	3.881	Diff
Mathematicians or Computer Scientists	1.7%	0.2%	1.4%	0.6%	0.3%	0.6%	0.498	
Psychologists or Social Scientists	0.2%	0.1%	0.4%	0.3%	-0.2%	0.3%	0.648	
Engineers	8.4%	0.5%	5.5%	1.1%	2.9%	1.2%	2.436	Diff
Non-scientists and Non-engineers	31.5%	0.9%	44.3%	2.3%	-12.8%	2.5%	5.135	Diff
Non-response	0.04%	0.04%	0%	0%	0.04%	0.04%	1.078	Diff

Table IV-CO: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	0.8%	0.1%	1.2%	0.5%	-0.4%	0.5%	0.799	
Mathematicians or Computer Scientists	43.7%	0.7%	44.1%	2.2%	-0.4%	2.3%	0.173	
Psychologists or Social Scientists	0.7%	0.1%	1.1%	0.5%	-0.4%	0.5%	0.836	
Engineers	17.3%	0.5%	8.6%	1.2%	8.7%	1.4%	6.424	Diff
Non-scientists and Non-engineers	37.5%	0.7%	45.0%	2.2%	-7.5%	2.3%	3.239	Diff
Non-response	0.01%	0.01%	0.2%	0.2%	-0.19%	0.2%	0.953	

Current Occupation – Question A15 (cont'd)

Table V-CO: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	0.7%	0.2%	0.6%	0.4%	0.1%	0.4%	0.249	
Mathematicians or Computer Scientists	2.1%	0.3%	2.7%	0.8%	-0.6%	0.8%	0.735	
Psychologists or Social Scientists	22.9%	0.9%	7.1%	1.2%	15.8%	1.5%	10.588	Diff
Engineers	2.0%	0.3%	2.2%	0.7%	-0.2%	0.8%	0.268	
Non-scientists and Non-engineers	72.4%	0.4%	87.4%	1.6%	-15.0%	1.8%	8.261	Diff
Non-response	0.05%	0.04%	0.2%	0.2%	-0.2%	0.2%	0.299	

Table VI-CO: Engineers								
Percentage of Engineers that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	0.8%	0.1%	1.6%	0.6%	-0.8%	0.6%	1.384	
Mathematicians or Computer Scientists	3.5%	0.2%	4.7%	1.0%	-1.2%	1.0%	1.225	
Psychologists or Social Scientists	0.1%	0.03%	0.2%	0.2%	-0.1%	0.2%	0.486	
Engineers	72.7%	0.4%	68.9%	2.1%	3.8%	2.2%	1.769	Diff
Non-scientists and Non-engineers	22.9%	0.4%	24.5%	2.0%	-1.6%	2.0%	0.801	
Non-response	0.03%	0.01%	0%	0%	0.03%	0.01%	2.061	Diff

Current Occupation – Question A15 (cont'd)

Table VII-CO: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers that are currently employed as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Physical Scientists	1.2%	0.04%	1.0%	0.5%	0.2%	0.5%	0.379	
Mathematicians or Computer Scientists	2.8%	0.1%	3.9%	1.0%	-1.1%	1.0%	1.072	
Psychologists or Social Scientists	0.5%	0.03%	1.1%	0.6%	-0.6%	0.6%	1.086	
Engineers	3.3%	0.1%	2.0%	0.7%	1.3%	0.7%	1.748	Diff
Non-scientists and Non-engineers	92.1%	0.1%	92.0%	1.4%	0.1%	1.4%	0.070	
Non-response	0.05%	0.01%	0.1%	0.2%	-0.1%	0.2%	0.299	

Working in Field – Question A19

Table I-WF: Total								
Percentage of persons that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	54.0%	0.2%	54.1%	1.1%	-0.1%	1.1%	0.094	
Somewhat Related	25.9%	0.1%	24.5%	0.9%	1.4%	0.9%	1.527	
Not Related	20.1%	0.1%	21.4%	0.9%	-1.3%	0.9%	1.488	
Non-response	0.7%	0.03%	0.1%	0.1%	0.6%	0.1%	8.393	Diff

Table II-WF: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	57.7%	0.3%	60.4%	1.1%	-2.7%	1.2%	2.312	Diff
Somewhat Related	30.9%	0.3%	28.9%	1.0%	2.0%	1.1%	1.847	Diff
Not Related	11.4%	0.2%	10.7%	0.7%	0.7%	0.7%	0.947	
Non-response	0.6%	0.05%	0%	0%	0.6%	0.1%	12.167	Diff

Working in Field – Question A19 (cont'd)

Table III-WF: Physical Scientists								
Percentage of Physical Scientists that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	68.6%	0.9%	71.4%	2.1%	-2.8%	2.3%	1.219	
Somewhat Related	25.1%	0.8%	22.7%	2.0%	2.4%	2.1%	1.126	
Not Related	6.3%	0.5%	5.8%	1.1%	0.5%	1.2%	0.420	
Non-response	0.6%	0.1%	0%	0%	0.6%	0.1%	4.187	Diff

Table IV-WF: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	45.5%	0.7%	48.2%	2.2%	-2.7%	2.3%	1.159	
Somewhat Related	33.4%	0.7%	31.3%	2.1%	2.1%	2.2%	0.970	
Not Related	21.0%	0.6%	20.5%	1.8%	0.5%	1.9%	0.266	
Non-response	0.6%	0.1%	0%	0%	0.6%	0.1%	5.606	Diff

Working in Field – Question A19 (cont'd)

Table V-WF: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	65.9%	1.0%	64.9%	2.2%	1.0%	2.4%	0.409	
Somewhat Related	22.7%	0.9%	26.0%	2.0%	-3.3%	2.2%	1.478	
Not Related	11.4%	0.7%	9.1%	1.3%	2.3%	1.5%	1.531	
Non-response	0.3%	0.1%	0%	0%	0.3%	0.1%	2.604	Diff

Table VI-WF: Engineers								
Percentage of Engineers that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	58.5%	0.4%	62.0%	2.2%	-3.5%	2.3%	1.551	
Somewhat Related	32.9%	0.4%	30.0%	2.1%	2.9%	2.1%	1.361	
Not Related	8.7%	0.2%	8.0%	1.2%	0.7%	1.3%	0.555	
Non-response	0.6%	0.1%	0%	0%	0.6%	0.1%	9.246	Diff

Working in Field – Question A19 (cont'd)

Table VII-WF: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers that are working in their field of study:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Closely Related	53.6%	0.2%	53.6%	2.6%	0%	2.6%	0	
Somewhat Related	25.4%	0.2%	24.1%	2.3%	1.3%	2.3%	0.574	
Not Related	20.9%	0.1%	22.4%	2.2%	-1.5%	2.2%	0.679	
Non-response	0.7%	0.03%	0.1%	0.2%	0.6%	0.2%	3.541	Diff

Work Activity – Question A23a

Table I-WAct: Total								
Percentage of persons whose primary work activity is:	Mail		Telephone					
	estimate	se	estimate	se	diff	se(diff)	t-stat	result
Acctg., Fnan., Contracts – A	8.6%	0.1%	8.1%	0.6%	0.5%	0.6%	0.855	
Applied Research – B	2.6%	0.1%	3.4%	0.4%	-0.8%	0.4%	2.066	Diff
Basic Research – C	0.8%	0.03%	0.6%	0.2%	0.2%	0.2%	1.205	
Comp. Appl., Prg. Sys. Dev. – D	6.7%	0.1%	7.0%	0.5%	-0.3%	0.6%	0.549	
Development – E	2.0%	0.04%	2.2%	0.3%	-0.2%	0.3%	0.637	
Design of Equipment – F	2.4%	0.05%	1.4%	0.2%	1.0%	0.3%	3.944	Diff
Employee Relations – G	3.7%	0.1%	1.6%	0.3%	2.1%	0.3%	7.709	Diff
Management and Admins. – H	16.2%	0.1%	15.4%	0.8%	0.8%	0.8%	1.034	
Produc., Operations, Maint. – I	3.6%	0.1%	4.4%	0.4%	-0.8%	0.4%	1.825	Diff
Professional Services – J	15.9%	0.1%	15.1%	0.8%	0.8%	0.8%	1.043	
Sales, Purchasing, Marketing – K	10.9%	0.1%	12.4%	0.7%	-1.5%	0.7%	2.128	Diff
Quality Management – L	2.0%	0.04%	3.3%	0.4%	-1.3%	0.4%	3.413	Diff
Teaching – M	16.9%	0.1%	20.0%	0.8%	-3.1%	0.9%	3.624	Diff
Other - N	7.7%	0.1%	5.2%	0.5%	2.5%	0.5%	5.233	Diff
Non-response	2.8%	0.1%	3.4%	0.4%	-0.6%	0.4%	1.557	

Work Activity – Question A23a (cont'd)

Table II-WAct: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers whose primary work activity is:	Mail		Telephone					
	estimate	se	estimate	se	diff	se(diff)	t-stat	result
Acctg., Fnan., Contracts – A	3.0%	0.1%	3.4%	0.4%	-0.4%	0.4%	0.926	
Applied Research – B	9.1%	0.2%	8.2%	0.6%	0.9%	0.7%	1.365	
Basic Research – C	1.8%	0.1%	1.8%	0.3%	0%	0.3%	0	
Comp. Appl., Prg. Sys. Dev. – D	19.4%	0.3%	19.2%	0.9%	0.2%	0.9%	0.212	
Development – E	7.4%	0.2%	8.3%	0.6%	-0.9%	0.7%	1.368	
Design of Equipment – F	13.3%	0.2%	10.0%	0.7%	3.3%	0.7%	4.549	Diff
Employee Relations – G	1.3%	0.1%	1.1%	0.2%	0.2%	0.3%	0.796	
Management and Admins. – H	14.3%	0.2%	15.8%	0.8%	-1.5%	0.9%	1.723	Diff
Produc., Operations, Maint. – I	2.9%	0.1%	3.0%	0.4%	-0.1%	0.4%	0.245	
Professional Services – J	7.7%	0.2%	8.0%	0.6%	-0.3%	0.7%	0.463	
Sales, Purchasing, Marketing – K	6.1%	0.2%	6.8%	0.6%	-0.7%	0.6%	1.166	
Quality Management – L	3.3%	0.1%	5.5%	0.5%	-2.2%	0.5%	4.089	Diff
Teaching – M	2.2%	0.1%	3.6%	0.4%	-1.4%	0.4%	3.183	Diff
Other - N	8.0%	0.2%	5.6%	0.5%	2.4%	0.6%	4.300	Diff
Non-response	1.4%	0.1%	0.4%	0.1%	1.0%	0.2%	6.123	Diff

Work Activity – Question A23a (cont'd)

Table III-WAct: Physical Scientists								
Percentage of Physical Scientists whose primary work activity is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Acctg., Fnan., Contracts – A	1.9%	0.3%	1.4%	0.6%	0.5%	0.6%	0.817	
Applied Research – B	28.3%	0.8%	26.5%	2.1%	1.8%	2.3%	0.800	
Basic Research – C	7.0%	0.5%	5.4%	1.1%	1.6%	1.2%	1.367	
Comp. Appl., Prg. Sys. Dev. – D	4.4%	0.4%	5.8%	1.1%	-1.4%	1.2%	1.196	
Development – E	7.2%	0.5%	7.7%	1.3%	-0.5%	1.4%	0.370	
Design of Equipment – F	1.3%	0.2%	1.8%	0.6%	-0.5%	0.7%	0.753	
Employee Relations – G	1.2%	0.2%	1.5%	0.6%	-0.3%	0.6%	0.492	
Management and Admins. – H	12.3%	0.6%	15.7%	1.7%	-3.4%	1.8%	1.861	Diff
Produc., Operations, Maint. – I	4.3%	0.4%	3.7%	0.9%	0.6%	1.0%	0.618	
Professional Services – J	10.9%	0.6%	9.9%	1.4%	1.0%	1.5%	0.654	
Sales, Purchasing, Marketing – K	2.8%	0.3%	2.5%	0.7%	0.3%	0.8%	0.375	
Quality Management – L	4.2%	0.4%	5.3%	1.1%	-1.1%	1.1%	0.979	
Teaching – M	3.5%	0.3%	4.4%	1.0%	-0.9%	1.0%	0.874	
Other - N	10.8%	0.6%	8.6%	1.3%	2.2%	1.5%	1.520	
Non-response	1.7%	0.2%	1.0%	0.5%	0.7%	0.5%	1.330	

Work Activity – Question A23a (cont'd)

Table IV-WAct: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists whose primary work activity is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Acctg., Fnan., Contracts – A	4.8%	0.3%	5.8%	1.0%	-1.0%	1.1%	0.922	
Applied Research – B	5.1%	0.3%	2.9%	0.7%	2.2%	0.8%	2.718	Diff
Basic Research – C	1.1%	0.1%	0.9%	0.4%	0.2%	0.5%	0.449	
Comp. Appl., Prg. Sys. Dev. – D	51.9%	0.7%	47.9%	2.2%	4.0%	2.3%	1.712	Diff
Development – E	3.8%	0.3%	5.2%	1.0%	-1.4%	1.0%	1.364	
Design of Equipment – F	3.5%	0.3%	2.7%	0.7%	0.8%	0.8%	1.042	
Employee Relations – G	1.2%	0.2%	0.9%	0.4%	0.3%	0.5%	0.670	
Management and Admins. – H	10.9%	0.4%	12.6%	1.5%	-1.7%	1.5%	1.101	
Produc., Operations, Maint. – I	1.0%	0.1%	1.1%	0.5%	-0.1%	0.5%	0.206	
Professional Services – J	2.6%	0.2%	3.1%	0.8%	-0.5%	0.8%	0.621	
Sales, Purchasing, Marketing – K	3.6%	0.3%	4.3%	0.9%	-0.7%	0.9%	0.743	
Quality Management – L	2.1%	0.2%	3.0%	0.8%	-0.9%	0.8%	1.143	
Teaching – M	3.4%	0.3%	5.7%	1.0%	-2.3%	1.1%	2.159	Diff
Other - N	4.9%	0.3%	3.8%	0.9%	1.1%	0.9%	1.215	
Non-response	1.4%	0.2%	0.6%	0.3%	0.8%	0.4%	2.104	Diff

Work Activity – Question A23a (cont'd)

Table V-WAct: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists whose primary work activity is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Acctg., Fnan., Contracts – A	3.3%	0.4%	3.2%	0.83%	0.1%	0.9%	0.110	
Applied Research – B	5.6%	0.5%	7.3%	1.2%	-1.7%	1.3%	1.291	
Basic Research – C	1.0%	0.2%	2.3%	0.7%	-1.3%	0.7%	1.768	Diff
Comp. Appl., Prg. Sys. Dev. – D	3.0%	0.4%	4.5%	1.0%	-1.5%	1.0%	1.443	
Development – E	1.6%	0.3%	1.1%	0.5%	0.5%	0.6%	0.896	
Design of Equipment – F	0.6%	0.2%	0.2%	0.2%	0.4%	0.3%	1.501	
Employee Relations – G	2.5%	0.3%	2.8%	0.8%	-0.3%	0.8%	0.359	
Management and Admins. – H	11.0%	0.7%	11.4%	1.5%	-0.4%	1.6%	0.245	
Produc., Operations, Maint. – I	1.1%	0.2%	0.2%	0.2%	0.9%	0.3%	2.947	Diff
Professional Services – J	31.7%	1.0%	35.6%	2.2%	-3.9%	2.5%	1.587	
Sales, Purchasing, Marketing – K	18.1%	0.8%	16.1%	1.7%	2.0%	1.9%	1.047	
Quality Management – L	1.5%	0.3%	1.0%	0.5%	0.5%	0.5%	0.936	
Teaching – M	3.7%	0.4%	5.5%	1.1%	-1.8%	1.1%	1.574	
Other - N	15.2%	0.8%	8.7%	1.3%	6.5%	1.5%	4.252	Diff
Non-response	1.9%	0.3%	1.1%	0.5%	0.8%	0.6%	1.414	

Work Activity – Question A23a (cont'd)

Table VI-WAct: Engineers								
Percentage of Engineers whose primary work activity is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Acctg., Fnan., Contracts – A	2.4%	0.1%	2.8%	0.8%	-0.4%	0.8%	0.523	
Applied Research – B	7.1%	0.2%	6.4%	1.1%	0.7%	1.1%	0.614	
Basic Research – C	1.0%	0.1%	1.2%	0.5%	-0.2%	0.5%	0.396	
Comp. Appl., Prg. Sys. Dev. – D	12.9%	0.3%	13.2%	1.5%	-0.3%	1.6%	0.191	
Development – E	10.2%	0.3%	11.4%	1.5%	-1.2%	1.5%	0.814	
Design of Equipment – F	22.9%	0.4%	17.2%	1.7%	5.7%	1.8%	3.237	Diff
Employee Relations – G	1.2%	0.1%	0.6%	0.4%	0.6%	0.4%	1.6451	Diff
Management and Admins. – H	16.9%	0.3%	18.1%	1.8%	-1.2%	1.8%	0.671	
Produc., Operations, Maint. – I	3.8%	0.2%	4.3%	0.9%	-0.5%	0.9%	0.531	
Professional Services – J	4.0%	0.2%	3.5%	0.8%	0.5%	0.9%	0.584	
Sales, Purchasing, Marketing – K	5.4%	0.2%	6.7%	1.1%	-1.3%	1.2%	1.122	
Quality Management – L	4.0%	0.2%	7.5%	1.2%	-3.5%	1.2%	2.881	Diff
Teaching – M	1.1%	0.1%	2.1%	0.7%	-1.0%	0.7%	1.513	
Other - N	7.1%	0.2%	4.9%	1.0%	2.2%	1.0%	2.178	Diff
Non-response	1.6%	0.1%	0%	0%	1.6%	0.1%	15.174	Diff

Work Activity – Question A23a (cont'd)

Table VII-WAct: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers whose primary work activity is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Acctg., Fnan., Contracts – A	9.1%	0.1%	8.6%	1.5%	0.5%	1.5%	0.332	
Applied Research – B	1.9%	0.1%	2.9%	0.9%	-1.0%	0.9%	1.110	
Basic Research – C	0.7%	0.03%	0.5%	0.4%	0.2%	0.4%	0.527	
Comp. Appl., Prg. Sys. Dev. – D	5.6%	0.1%	5.8%	1.3%	-0.2%	1.3%	0.159	
Development – E	1.5%	0.04%	1.6%	0.7%	-0.1%	0.7%	0.148	
Design of Equipment – F	1.4%	0.04%	0.5%	0.4%	0.9%	0.4%	2.365	Diff
Employee Relations – G	3.9%	0.1%	1.7%	0.7%	2.2%	0.7%	3.159	Diff
Management and Admins. – H	16.4%	0.1%	15.3%	1.9%	1.1%	1.9%	0.569	
Produc., Operations, Maint. – I	3.7%	0.1%	4.5%	1.1%	-0.8%	1.1%	0.719	
Professional Services – J	16.7%	0.1%	15.8%	2.0%	0.9%	2.0%	0.459	
Sales, Purchasing, Marketing – K	11.3%	0.1%	12.9%	1.8%	-1.6%	1.8%	0.889	
Quality Management – L	1.9%	0.1%	3.1%	0.9%	-1.2%	0.9%	1.290	
Teaching – M	18.3%	0.1%	21.6%	2.2%	-3.3%	2.2%	1.493	
Other - N	7.7%	0.1%	5.2%	1.2%	2.5%	1.2%	2.094	Diff
Non-response	3.0%	0.1%	3.7%	1.0%	-0.7%	1.00%	0.701	

Work Area – Question A30

Table I-WArea: Total								
Percentage of persons that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	2.6%	0.1%	2.3%	0.3%	0.3%	0.3%	0.937	
Environment	4.0%	0.1%	3.8%	0.4%	0.2%	0.4%	0.490	
Health/Safety	18.6%	0.1%	12.8%	0.7%	5.8%	0.7%	8.109	Diff
National Defense	3.2%	0.1%	2.1%	0.3%	1.1%	0.3%	3.578	Diff
Other	71.5%	0.1%	79.0%	0.9%	-7.5%	0.9%	8.613	Diff
Non-response	1.9%	0.04%	0.1%	0.1%	1.8%	0.1%	22.775	Diff

Table II-WArea: Total Scientists and Engineers								
Percentage of Scientists and Engineers that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	8.1%	0.2%	6.6%	0.6%	1.5%	0.6%	2.510	Diff
Environment	10.5%	0.2%	10.7%	0.7%	-0.2%	0.7%	0.271	
Health/Safety	11.3%	0.2%	8.7%	0.6%	2.6%	0.7%	3.825	Diff
National Defense	13.0%	0.2%	11.0%	0.7%	2.0%	0.8%	2.661	Diff
Other	57.1%	0.3%	63.0%	1.1%	-5.9%	1.2%	5.106	Diff
Non-response	2.0%	0.1%	0.1%	0.1%	1.9%	0.1%	16.494	Diff

Work Area – Question A30 (cont'd)

Table III-WArea: Physical Scientists								
Percentage of Physical Scientists that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	9.3%	0.5%	8.2%	1.3%	1.1%	1.4%	0.785	
Environment	35.4%	0.9%	32.9%	2.2%	2.5%	2.4%	1.048	
Health/Safety	19.6%	0.7%	18.0%	1.8%	1.6%	2.0%	0.818	
National Defense	2.5%	0.3%	3.2%	0.8%	-0.7%	0.9%	0.797	
Other	33.2%	0.9%	37.6%	2.3%	-4.4%	2.5%	1.799	Diff
Non-response	1.7%	0.2%	0%	0%	1.7%	0.2%	7.087	Diff

Table IV-WArea: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	2.9%	0.2%	3.3%	0.8%	-0.4%	0.8%	0.483	
Environment	2.2%	0.2%	1.4%	0.5%	0.8%	0.6%	1.425	
Health/Safety	6.9%	0.4%	4.6%	0.9%	2.3%	1.0%	2.306	Diff
National Defense	12.6%	0.5%	10.5%	1.4%	2.1%	1.4%	1.458	
Other	75.5%	0.6%	80.2%	1.8%	-4.7%	1.9%	2.510	Diff
Non-response	1.6%	0.2%	0%	0%	1.6%	0.2%	9.201	Diff

Work Area – Question A30 (cont'd)

Table V-WArea: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	2.9%	0.4%	2.6%	0.7%	0.3%	0.8%	0.363	
Environment	3.3%	0.4%	2.3%	0.7%	1.0%	0.8%	1.252	
Health/Safety	28.9%	1.0%	22.2%	1.9%	6.7%	2.2%	3.082	Diff
National Defense	2.0%	0.3%	2.3%	0.7%	-0.3%	0.8%	0.393	
Other	62.8%	1.0%	70.5%	2.1%	-7.7%	2.4%	3.246	Diff
Non-response	2.0%	0.3%	0.6%	0.4%	1.4%	0.5%	3.004	Diff

Table VI-WArea: Engineers								
Percentage of Engineers that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	11.1%	0.3%	8.5%	1.3%	2.6%	1.3%	1.997	Diff
Environment	9.5%	0.2%	11.4%	1.5%	-1.9%	1.5%	1.290	
Health/Safety	7.4%	0.2%	5.3%	1.0%	2.1%	1.1%	2.005	Diff
National Defense	18.1%	0.3%	14.9%	1.6%	3.2%	1.7%	1.928	Diff
Other	53.9%	0.4%	60.0%	2.2%	-6.1%	2.3%	2.678	Diff
Non-response	2.2%	0.1%	0%	0%	2.2%	0.1%	17.848	Diff

Work Area – Question A30 (cont'd)

Table VII-WArea: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers that are working in:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Energy/Fuel	2.1%	0.1%	1.9%	0.7%	0.2%	0.7%	0.277	
Environment	3.4%	0.1%	3.2%	0.9%	0.2%	0.9%	0.215	
Health/Safety	19.3%	0.1%	13.1%	1.8%	6.2%	1.8%	3.466	Diff
National Defense	2.4%	0.1%	1.3%	0.6%	1.1%	0.6%	1.830	Diff
Other	72.8%	0.2%	80.5%	2.1%	-7.7%	2.1%	3.666	Diff
Non-response	1.9%	0.05%	0.1%	0.2%	1.8%	0.2%	10.357	Diff

Past Employment – Questions B1 & B2

Table I-PE: Total								
Percentage of persons whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	49.7%	0.1%	47.4%	1.0%	2.3%	1.0%	2.235	Diff
Different Employer	35.1%	0.1%	32.3%	1.0%	2.8%	1.0%	2.856	Diff
Not Employed	15.2%	0.1%	20.3%	0.8%	-5.1%	0.8%	6.112	Diff
Non-response	4.0%	0.1%	7.5%	0.5%	-3.5%	0.5%	6.760	Diff

Table II-PE: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	53.6%	0.3%	59.6%	1.1%	-6.0%	1.1%	5.313	Diff
Different Employer	37.8%	0.3%	31.1%	1.0%	6.7%	1.1%	6.240	Diff
Not Employed	8.6%	0.2%	9.3%	0.7%	-0.7%	0.7%	0.991	
Non-response	2.6%	0.1%	9.5%	0.6%	-6.9%	0.6%	10.898	Diff

Past Employment – Questions B1 & B2 (cont'd)

Table III-PE: Physical Scientists								
Percentage of Physical Scientists whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	52.7%	0.9%	62.4%	2.2%	-9.6%	2.4%	4.059	Diff
Different Employer	36.8%	0.8%	26.6%	2.0%	10.2%	2.2%	4.655	Diff
Not Employed	10.4%	0.5%	11.0%	1.4%	-0.5%	1.5%	0.348	
Non-response	2.5%	0.3%	10.7%	1.3%	-8.2%	1.4%	6.005	Diff

Table IV-PE: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	51.9%	0.7%	59.0%	2.2%	-7.1%	2.3%	3.139	Diff
Different Employer	41.5%	0.7%	33.3%	2.1%	8.2%	2.2%	3.799	Diff
Not Employed	6.5%	0.3%	7.7%	1.2%	-1.2%	1.2%	0.951	
Non-response	2.3%	0.2%	6.5%	1.0%	-4.1%	1.1%	3.892	Diff

Past Employment – Questions B1 & B2 (cont'd)

Table V-PE: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	45.0%	1.0%	52.9%	2.3%	-7.9%	2.5%	3.136	Diff
Different Employer	44.5%	1.0%	36.6%	2.2%	7.9%	2.4%	3.252	Diff
Not Employed	10.5%	0.6%	10.6%	1.4%	-0.1%	1.54%	0.031	
Non-response	3.5%	0.4%	7.1%	1.1%	-3.6%	1.2%	3.067	Diff

Table VI-PE: Engineers								
Percentage of Engineers whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	56.2%	0.4%	60.8%	2.2%	-4.6%	2.2%	2.064	Diff
Different Employer	35.2%	0.4%	29.9%	2.1%	5.3%	2.1%	2.518	Diff
Not Employed	8.6%	0.2%	9.3%	1.3%	-0.7%	1.3%	0.503	
Non-response	2.5%	0.1%	11.0%	1.3%	-8.5%	1.3%	6.404	Diff

Past Employment – Questions B1 & B2 (cont'd)

Table VII-PE: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers whose employer 5 years ago was:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Same Employer	49.4%	0.2%	46.4%	2.5%	3.0%	2.5%	1.209	
Different Employer	34.9%	0.2%	32.4%	2.3%	2.5%	2.3%	1.042	
Not Employed	15.8%	0.1%	21.2%	2.0%	-5.4%	2.0%	2.670	Diff
Non-response	4.1%	0.1%	7.3%	1.2%	-3.2%	1.2%	2.606	Diff

Degree Level – Question D6

Table I-DL: Total								
Percentage of persons with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	1.1%	0.03%	2.2%	0.3%	-1.1%	0.3%	3.810	Diff
Professional Degree	6.6%	0.1%	6.4%	0.5%	0.2%	0.5%	0.413	
Master's Degree	25.3%	0.1%	23.9%	0.8%	1.4%	0.8%	1.659	Diff
Bachelor's Degree	67.0%	0.1%	67.6%	0.9%	-0.6%	0.9%	0.648	
Non-response	0.8%	0.02%	0.3%	0.1%	0.5%	0.1%	4.558	Diff

Table II-DL: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	1.1%	0.1%	1.5%	0.3%	-0.4%	0.3%	1.489	
Professional Degree	1.2%	0.1%	1.8%	0.3%	-0.6%	0.3%	2.046	Diff
Master's Degree	31.9%	0.3%	31.0%	1.0%	0.9%	1.0%	0.872	
Bachelor's Degree	65.7%	0.3%	65.7%	1.0%	0%	1.1%	0	
Non-response	0.6%	0.04%	0.2%	0.1%	0.4%	0.1%	3.835	Diff

Degree Level – Question D6 (cont'd)

Table III-DL: Physical Scientists								
Percentage of Physical Scientists with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	3.0%	0.3%	2.5%	0.7%	0.5%	0.7%	0.680	
Professional Degree	3.1%	0.3%	3.1%	0.7%	0%	0.8%	0	
Master's Degree	31.7%	0.8%	31.7%	2.0%	0%	2.2%	0	
Bachelor's Degree	62.3%	0.8%	62.7%	2.1%	-0.4%	2.3%	0.178	
Non-response	0.6%	0.1%	0.2%	0.2%	0.4%	0.2%	1.710	Diff

Table IV-DL: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	0.5%	0.1%	0.6%	0.3%	-0.1%	0.3%	0.294	
Professional Degree	1.1%	0.1%	1.2%	0.5%	-0.1%	0.5%	0.208	
Master's Degree	30.9%	0.6%	30.2%	1.9%	0.7%	2.0%	0.343	
Bachelor's Degree	67.5%	0.6%	68.0%	2.0%	-0.5%	2.1%	0.241	
Non-response	0.4%	0.1%	0%	0%	0.4%	0.1%	4.831	Diff

Degree Level – Question D6 (cont'd)

Table V-DL: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	3.4%	0.4%	3.7%	0.8%	-0.3%	0.9%	0.331	
Professional Degree	2.6%	0.3%	4.2%	0.9%	-1.6%	0.9%	1.702	Diff
Master's Degree	54.9%	1.0%	52.1%	2.2%	2.8%	2.4%	1.159	
Bachelor's Degree	39.2%	1.0%	40.0%	2.2%	-0.8%	2.4%	0.338	
Non-response	0.4%	0.1%	0.2%	0.2%	0.2%	0.2%	0.859	

Table VI-DL: Engineers								
Percentage of Engineers with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	0.4%	0.05%	1.2%	0.5%	-0.8%	0.5%	1.726	Diff
Professional Degree	0.6%	0.1%	1.1%	0.4%	-0.5%	0.5%	1.122	
Master's Degree	27.5%	0.3%	26.6%	1.9%	0.9%	1.9%	0.473	
Bachelor's Degree	71.4%	0.4%	71.0%	1.9%	0.4%	2.0%	0.205	
Non-response	0.6%	0.1%	0.3%	0.2%	0.3%	0.2%	1.256	

Degree Level – Question D6 (cont'd)

Table VII-DL: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers with highest degree of:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
PhDs	1.1%	0.03%	2.3%	0.7%	-1.2%	0.7%	1.691	Diff
Professional Degree	7.0%	0.1%	6.8%	1.2%	0.2%	1.2%	0.168	
Master's Degree	24.8%	0.1%	23.2%	2.0%	1.6%	2.0%	0.800	
Bachelor's Degree	67.1%	0.2%	67.7%	2.2%	-0.6%	2.2%	0.271	
Non-response	0.8%	0.03%	0.3%	0.3%	0.5%	0.3%	1.928	Diff

Continuing Education – Question D7

Table I-CE: Total								
Percentage of persons who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	45.0%	0.1%	48.5%	1.0%	-3.5%	1.0%	3.544	Diff
Have Not Taken	55.0%	0.1%	51.5%	1.0%	3.5%	1.0%	3.544	Diff
Non-response	1.4%	0.03%	0.05%	0.04%	1.35%	0.05%	24.847	Diff

Table II-CE: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	48.2%	0.3%	47.0%	1.1%	1.2%	1.1%	1.085	
Have Not Taken	51.8%	0.3%	53.0%	1.1%	-1.2%	1.1%	1.085	
Non-response	1.0%	0.1%	0.1%	0.1%	0.9%	0.1%	10.481	Diff

Table III-CE: Physical Scientists								
Percentage of Physical Scientists who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	51.7%	0.9%	50.9%	2.2%	0.8%	2.3%	0.344	
Have Not Taken	48.3%	0.9%	49.1%	2.2%	-0.8%	2.3%	0.344	
Non-response	0.9%	0.2%	0%	0%	0.9%	0.2%	5.558	Diff

Continuing Education – Question D7 (cont'd)

Table IV-CE: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	49.4%	0.7%	47.6%	2.1%	1.8%	2.2%	0.812	
Have Not Taken	50.6%	0.7%	52.4%	2.1%	-1.8%	2.2%	0.812	
Non-response	0.8%	0.1%	0%	0%	0.8%	0.1%	6.845	Diff

Table V-CE: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	43.2%	1.0%	45.0%	2.2%	-1.8%	2.4%	0.746	
Have Not Taken	56.8%	1.0%	55.0%	2.2%	1.8%	2.4%	0.746	
Non-response	1.1%	0.2%	0.9%	0.4%	0.2%	0.5%	0.431	

Continuing Education – Question D7 (cont'd)

Table VI-CE: Engineers								
Percentage of Engineers who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	47.9%	0.4%	46.3%	2.1%	1.6%	2.1%	0.747	
Have Not Taken	52.1%	0.4%	53.7%	2.1%	-1.6%	2.1%	0.747	
Non-response	1.0%	0.1%	0%	0%	1.0%	0.1%	12.917	Diff

Table VII-CE: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers who have taken college or university courses since finishing their most recent degree:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Have Taken	44.8%	0.2%	48.7%	2.4%	-3.9%	2.4%	1.650	Diff
Have Not Taken	55.2%	0.2%	51.3%	2.4%	3.9%	2.4%	1.650	Diff
Non-response	1.5%	0.04%	0.1%	0.1%	1.4%	0.1%	12.900	Diff

Spouse's Occupation – Questions D13, D14 & D15

Table I-SO: Total								
Percentage of persons whose spouse works as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Scientist of Engineer, Total	44.4%	0.2%	46.7%	1.1%	-2.3%	1.1%	1.975	Diff
Scientist or Engineer, Full Time	24.3%	0.1%	30.6%	1.0%	-6.3%	1.1%	5.959	Diff
Scientist or Engineer, Part Time	20.1%	0.1%	16.1%	0.8%	4.0%	0.8%	4.788	Diff
Non-scientist/Non-engineer, Total	6.2%	0.1%	5.0%	0.5%	1.1%	0.5%	2.267	Diff
Non-scientist/Non-engineer, Full Time	2.8%	0.1%	2.7%	0.4%	0.1%	0.4%	0.382	
Non-scientist/Non-engineer, Part Time	3.3%	0.1%	2.3%	0.3%	1.0%	0.3%	2.867	Diff
Working, non-technical	22.2%	0.1%	21.4%	0.9%	0.8%	0.9%	0.858	
Not Working	27.2%	0.2%	26.9%	1.0%	0.3%	1.0%	0.307	
Non-response	4.3%	0.1%	0.6%	0.2%	3.7%	0.2%	20.075	Diff

Table II-SO: Total Scientists and Engineers Only								
Percentage of Scientists and Engineers whose spouse works as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Scientist of Engineer, Total	37.3%	0.3%	40.3%	1.2%	-3.1%	1.3%	2.441	Diff
Scientist or Engineer, Full Time	23.2%	0.3%	25.0%	1.1%	-1.7%	1.1%	1.575	
Scientist or Engineer, Part Time	14.0%	0.2%	15.3%	0.9%	-1.3%	0.9%	1.434	
Non-scientist/Non-engineer, Total	7.7%	0.2%	7.1%	0.6%	0.6%	0.7%	0.923	
Non-scientist/Non-engineer, Full Time	3.6%	0.1%	3.8%	0.5%	-0.2%	0.5%	0.361	
Non-scientist/Non-engineer, Part Time	4.1%	0.1%	3.3%	0.4%	0.8%	0.5%	1.694	Diff
Working, non-technical	20.7%	0.3%	20.5%	1.0%	0.2%	1.0%	0.207	
Not Working	34.4%	0.3%	32.1%	1.2%	2.2%	1.2%	1.872	Diff
Non-response	3.1%	0.1%	0.4%	0.2%	2.7%	0.2%	13.586	Diff

Spouse's Occupation – Questions D13, D14 & D15 (cont'd)

Table III-SO: Physical Scientists								
Percentage of Physical Scientists whose spouse works as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	Estimate	se				
Scientist of Engineer, Total	43.3%	1.0%	44.7%	2.4%	-1.4%	2.6%	0.512	
Scientist or Engineer, Full Time	27.8%	0.9%	31.0%	2.3%	-3.2%	2.5%	1.315	
Scientist or Engineer, Part Time	15.6%	0.7%	13.7%	1.7%	1.9%	1.8%	1.013	
Non-scientist/Non-engineer, Total	7.8%	0.6%	8.0%	1.3%	-0.2%	1.4%	0.158	
Non-scientist/Non-engineer, Full Time	3.9%	0.4%	3.4%	0.9%	0.5%	1.0%	0.552	
Non-scientist/Non-engineer, Part Time	3.9%	0.4%	4.7%	1.0%	-0.8%	1.1%	0.686	
Working, non-technical	19.9%	0.8%	19.6%	2.0%	0.3%	2.1%	0.145	
Not Working	29.0%	0.9%	27.7%	2.2%	1.3%	2.4%	0.535	
Non-response	3.3%	0.4%	0.0%	0.0%	3.3%	0.4%	9.163	Diff

Table IV-SO: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists whose spouse works as:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Scientist of Engineer, Total	44.5%	0.8%	46.3%	2.5%	-2.2%	2.6%	0.841	
Scientist or Engineer, Full Time	29.5%	0.7%	29.5%	2.3%	0.0%	2.4%	0.000	
Scientist or Engineer, Part Time	15.0%	0.6%	17.2%	1.9%	-2.2%	2.0%	1.118	
Non-scientist/Non-engineer, Total	6.8%	0.4%	6.9%	1.3%	-0.1%	1.3%	0.071	
Non-scientist/Non-engineer, Full Time	3.5%	0.3%	3.9%	1.0%	-0.4%	1.0%	0.423	
Non-scientist/Non-engineer, Part Time	3.4%	0.3%	3.0%	0.9%	0.3%	0.9%	0.367	
Working, non-technical	21.2%	0.7%	20.5%	2.0%	0.6%	2.1%	0.294	
Not Working	27.5%	0.7%	25.8%	2.2%	1.7%	2.3%	0.727	
Non-response	3.1%	0.3%	0.6%	0.4%	2.5%	0.5%	5.304	Diff

Spouse's Occupation – Questions D13, D14 & D15 (cont'd)

Table V-SO: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists whose spouse works as:	Mail		Telephone					
	estimate	se	estimate	se	diff	se(diff)	t-stat	result
Scientist of Engineer, Total	56.4%	1.2%	58.5%	2.6%	-2.1%	2.8%	0.737	
Scientist or Engineer, Full Time	33.6%	1.2%	36.0%	2.5%	-2.4%	2.8%	0.852	
Scientist or Engineer, Part Time	22.8%	1.0%	22.6%	2.2%	0.3%	2.4%	0.106	
Non-scientist/Non-engineer, Total	7.7%	0.7%	7.2%	1.4%	0.4%	1.5%	0.280	
Non-scientist/Non-engineer, Full Time	4.2%	0.5%	4.0%	1.0%	0.1%	1.1%	0.123	
Non-scientist/Non-engineer, Part Time	3.5%	0.4%	3.2%	0.9%	0.3%	1.0%	0.274	
Working, non-technical	16.2%	0.9%	15.6%	1.9%	0.6%	2.1%	0.281	
Not Working	19.7%	1.0%	18.6%	2.0%	1.1%	2.3%	0.482	
Non-response	3.3%	0.4%	0.5%	0.3%	2.9%	0.6%	5.159	Diff

Table VI-SO: Engineers								
Percentage of Engineers whose spouse works as:	Mail		Telephone					
	estimate	se	estimate	se	diff	se(diff)	t-stat	result
Scientist of Engineer, Total	30.0%	0.4%	33.7%	2.2%	-3.7%	2.2%	1.660	Diff
Scientist or Engineer, Full Time	18.2%	0.3%	20.0%	1.9%	-1.8%	1.9%	0.946	
Scientist or Engineer, Part Time	11.8%	0.3%	13.7%	1.6%	-1.9%	1.6%	1.183	
Non-scientist/Non-engineer, Total	7.9%	0.2%	6.9%	1.2%	1.1%	1.2%	0.895	
Non-scientist/Non-engineer, Full Time	3.4%	0.2%	3.7%	0.9%	-0.3%	0.9%	0.330	
Non-scientist/Non-engineer, Part Time	4.5%	0.2%	3.1%	0.8%	1.4%	0.8%	1.653	Diff
Working, non-technical	21.5%	0.4%	21.6%	1.9%	-0.1%	2.0%	0.031	
Not Working	40.6%	0.4%	37.9%	2.3%	2.7%	2.3%	1.174	
Non-response	3.1%	0.2%	0.5%	0.3%	2.6%	0.3%	7.609	Diff

Spouse's Occupation – Questions D13, D14 & D15 (cont'd)

Table VII-SO: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers whose spouse works as:	Mail		Telephone					
	estimate	Se	estimate	se	diff	se(diff)	t-stat	result
Scientist or Engineer, Total	45.0%	0.2%	47.2%	2.8%	-2.2%	2.8%	0.771	
Scientist or Engineer, Full Time	24.4%	0.2%	31.1%	2.6%	-6.7%	2.6%	2.548	Diff
Scientist or Engineer, Part Time	20.6%	0.2%	16.1%	2.1%	4.5%	2.1%	2.158	Diff
Non-scientist/Non-engineer, Total	6.0%	0.1%	4.9%	1.2%	1.2%	1.2%	0.972	
Non-scientist/Non-engineer, Full Time	2.8%	0.1%	2.6%	0.9%	0.2%	0.9%	0.189	
Non-scientist/Non-engineer, Part Time	3.3%	0.1%	2.2%	0.8%	1.0%	0.8%	1.205	
Working, non-technical	22.4%	0.2%	21.5%	2.3%	0.9%	2.3%	0.368	
Not Working	26.5%	0.2%	26.4%	2.5%	0.1%	2.5%	0.057	
Non-response	4.4%	0.1%	0.6%	0.4%	3.8%	0.4%	8.597	Diff

Urban/Rural – Question D22

Table I-U/R: Total								
Percentage of persons who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	Se	estimate	se				
Lived in Rural Area	33.7%	0.1%	33.7%	0.9%	0%	0.9%	0	
Did Not Live in Rural Area	66.3%	0.1%	66.3%	0.9%	0%	0.9%	0	
Non-response	0.9%	0.03%	0.1%	0.1%	0.8%	0.1%	12.946	Diff

Table II-U/R: Total Scientists and Engineers								
Percentage of Total Scientists and Engineers who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	Se	estimate	se				
Lived in Rural Area	32.6%	0.2%	30.3%	1.0%	2.3%	1.0%	2.328	Diff
Did Not Live in Rural Area	67.4%	0.2%	69.7%	1.0%	-2.3%	1.0%	2.328	Diff
Non-response	0.8%	0.05%	0.05%	0.05%	0.75%	0.05%	15.614	Diff

Table III-U/R: Physical Scientists								
Percentage of Physical Scientists who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	Se	estimate	se				
Lived in Rural Area	37.8%	0.8%	36.7%	2.1%	1.1%	2.2%	0.490	
Did Not Live in Rural Area	62.2%	0.8%	63.3%	2.1%	-1.1%	2.2%	0.490	
Non-response	0.9%	0.2%	0.2%	0.2%	0.7%	0.3%	2.781	Diff

Urban/Rural – Question D22 (cont'd)

Table IV-U/R: Mathematicians and Computer Scientists								
Percentage of Mathematicians and Computer Scientists who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	Se	Estimate	se				
Lived in Rural Area	28.0%	0.6%	28.5%	1.9%	-0.5%	2.0%	0.250	
Did Not Live in Rural Area	72.0%	0.6%	71.5%	1.9%	0.5%	2.0%	0.250	
Non-response	0.7%	0.1%	0%	0%	0.7%	0.1%	6.401	Diff

Table V-U/R: Psychologists and Social Scientists								
Percentage of Psychologists and Social Scientists who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Lived in Rural Area	28.0%	0.9%	29.6%	2.0%	-1.6%	2.2%	0.726	
Did Not Live in Rural Area	72.0%	0.9%	70.4%	2.0%	1.6%	2.2%	0.726	
Non-response	0.9%	0.2%	0.2%	0.2%	0.7%	0.3%	2.586	Diff

Urban/Rural – Question D22 (cont'd)

Table VI-U/R: Engineers								
Percentage of Engineers who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Lived in Rural Area	34.1%	0.4%	29.7%	1.9%	4.4%	2.0%	2.238	Diff
Did Not Live in Rural Area	65.9%	0.4%	70.3%	1.9%	-4.4%	2.0%	2.238	Diff
Non-response	0.7%	0.1%	0%	0%	0.7%	0.1%	10.791	Diff

Table VII-U/R: Non-scientists and Non-engineers								
Percentage of Non-scientists and Non-engineers who lived in a rural or farming community prior to the age of 18:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
Lived in Rural Area	33.8%	0.2%	34.0%	2.2%	-0.2%	2.2%	0.089	
Did Not Live in Rural Area	66.2%	0.2%	66.0%	2.2%	0.2%	2.2%	0.089	
Non-response	0.9%	0.03%	0.1%	0.1%	0.8%	0.2%	5.261	Diff

Parent's Highest Education Level – Question D23

Table I-PHE: Total – Mother								
Percentage of persons whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	7.1%	0.1%	5.3%	0.4%	1.8%	0.4%	4.054	Diff
Bachelor's Degree	13.3%	0.1%	17.2%	0.7%	-3.9%	0.7%	5.241	Diff
Some College, including Associate's Degree	22.1%	0.1%	23.2%	0.8%	-1.1%	0.8%	1.320	
High School Diploma	38.0%	0.1%	36.5%	0.9%	1.5%	1.0%	1.577	
Less than High School Diploma	18.6%	0.1%	15.4%	0.7%	3.2%	0.7%	4.480	Diff
Don't Know	0.9%	0.03%	2.4%	0.3%	-1.5%	0.3%	4.991	Diff
Non-response	1.0%	0.03%	0.1%	0.1%	0.9%	0.1%	13.320	Diff

53

Table II-PHE: Total – Father								
Percentage of persons whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	15.6%	0.1%	16.3%	0.7%	-0.7%	0.7%	0.959	
Bachelor's Degree	15.8%	0.1%	17.8%	0.7%	-2.0%	0.8%	2.648	Diff
Some College, including Associate's Degree	18.4%	0.1%	13.7%	0.7%	4.7%	0.7%	6.899	Diff
High School Diploma	25.5%	0.1%	28.2%	0.9%	-2.7%	0.9%	3.039	Diff
Less than High School Diploma	23.4%	0.1%	22.3%	0.8%	1.1%	0.8%	1.337	
Don't Know	1.3%	0.03%	1.8%	0.3%	-0.5%	0.3%	1.908	Diff
Non-response	0.7%	0.02%	0.1%	0.1%	0.6%	0.1%	9.105	Diff

Parent's Highest Education Level – Question D23 (cont'd)

Table III-PHE: Total Scientists and Engineers Only – Mother								
Percentage of Scientists and Engineers whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	7.3%	0.1%	7.2%	0.6%	0.1%	0.6%	0.175	
Bachelor's Degree	13.7%	0.2%	15.6%	0.8%	-1.9%	0.8%	2.372	Diff
Some College, including Associate's Degree	21.6%	0.2%	19.9%	0.9%	1.7%	0.9%	1.920	Diff
High School Diploma	38.9%	0.3%	41.1%	1.1%	-2.2%	1.1%	2.021	Diff
Less than High School Diploma	17.7%	0.2%	15.0%	0.8%	2.7%	0.8%	3.401	Diff
Don't Know	0.9%	0.1%	1.1%	0.2%	-0.2%	0.2%	0.871	
Non-response	0.7%	0.04%	0.1%	0.1%	0.6%	0.1%	7.413	Diff

54

Table IV-PHE: Total Scientists and Engineers Only – Father								
Percentage of Scientists and Engineers whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	16.0%	0.2%	15.1%	0.8%	0.9%	0.8%	1.134	
Bachelor's Degree	17.8%	0.2%	20.1%	0.9%	-2.3%	0.9%	2.598	Diff
Some College, including Associate's Degree	18.3%	0.2%	16.4%	0.8%	1.9%	0.8%	2.311	Diff
High School Diploma	25.5%	0.2%	27.2%	1.0%	-1.7%	1.0%	1.727	Diff
Less than High School Diploma	21.3%	0.2%	19.6%	0.9%	1.7%	0.9%	1.930	Diff
Don't Know	1.0%	0.1%	1.7%	0.3%	-0.7%	0.3%	2.474	Diff
Non-response	0.5%	0.04%	0.2%	0.1%	0.3%	0.1%	2.914	Diff

Parent's Highest Education Level – Question D23 (cont'd)

Table V-PHE: Physical Scientists – Mother								
Percentage of Physical Scientists whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	8.6%	0.5%	6.7%	1.1%	1.9%	1.2%	1.607	
Bachelor's Degree	14.7%	0.6%	14.8%	1.5%	-0.1%	1.7%	0.061	
Some College, including Associate's Degree	23.2%	0.7%	20.2%	1.7%	3.0%	1.9%	1.597	
High School Diploma	36.8%	0.8%	41.6%	2.1%	-4.8%	2.3%	2.102	Diff
Less than High School Diploma	15.9%	0.6%	15.8%	1.6%	0.1%	1.7%	0.059	
Don't Know	0.8%	0.2%	0.9%	0.4%	-0.1%	0.4%	0.230	
Non-response	0.9%	0.2%	0%	0%	0.9%	0.2%	5.559	Diff

55

Table VI-PHE: Physical Scientists – Father								
Percentage of Physical Scientists whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	18.6%	0.7%	15.1%	1.5%	3.5%	1.7%	2.079	Diff
Bachelor's Degree	16.7%	0.6%	17.5%	1.6%	-0.8%	1.8%	0.454	
Some College, including Associate's Degree	18.6%	0.7%	12.3%	1.4%	6.3%	1.6%	4.020	Diff
High School Diploma	25.5%	0.7%	32.5%	2.0%	-7.0%	2.2%	3.247	Diff
Less than High School Diploma	19.6%	0.7%	21.2%	1.8%	-1.6%	1.9%	0.846	
Don't Know	1.0%	0.2%	1.3%	0.5%	-0.3%	0.5%	0.579	
Non-response	0.6%	0.1%	0%	0%	0.6%	0.1%	4.532	Diff

Parent's Highest Education Level – Question D23 (cont'd)

Table VII-PHE: Mathematicians and Computer Scientists - Mother								
Percentage of Mathematicians and Computer Scientists whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	8.9%	0.4%	6.9%	1.1%	2.0%	1.1%	1.757	Diff
Bachelor's Degree	13.8%	0.5%	17.4%	1.6%	-3.6%	1.7%	2.155	Diff
Some College, including Associate's Degree	22.1%	0.5%	22.9%	1.8%	-0.8%	1.9%	0.429	
High School Diploma	38.7%	0.6%	39.6%	2.1%	-0.9%	2.2%	0.415	
Less than High School Diploma	15.7%	0.5%	12.5%	1.4%	3.2%	1.5%	2.159	Diff
Don't Know	0.9%	0.1%	0.7%	0.4%	0.2%	0.4%	0.534	
Non-response	0.6%	0.1%	0%	0%	0.6%	0.1%	5.923	Diff

56

Table VIII-PHE: Mathematicians and Computer Scientists - Father								
Percentage of Mathematicians and Computer Scientists whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	19.1%	0.5%	17.6%	1.6%	1.5%	1.7%	0.885	
Bachelor's Degree	18.4%	0.5%	22.1%	1.8%	-3.7%	1.8%	2.020	Diff
Some College, including Associate's Degree	18.5%	0.5%	18.0%	1.6%	0.5%	1.7%	0.293	
High School Diploma	23.7%	0.6%	24.6%	1.8%	-0.9%	1.9%	0.471	
Less than High School Diploma	19.2%	0.5%	16.3%	1.6%	2.9%	1.7%	1.758	Diff
Don't Know	1.0%	0.1%	1.3%	0.5%	-0.3%	0.5%	0.603	
Non-response	0.5%	0.1%	0%	0%	0.5%	0.1%	5.404	Diff

Parent's Highest Education Level – Question D23 (cont'd)

Table IX-PHE: Psychologists and Social Scientists - Mother								
Percentage of Psychologists and Social Scientists whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	9.5%	0.6%	11.0%	1.4%	-1.5%	1.5%	1.001	
Bachelor's Degree	15.9%	0.7%	17.5%	1.7%	-1.6%	1.8%	0.876	
Some College, including Associate's Degree	25.8%	0.9%	21.8%	1.8%	4.0%	2.0%	1.983	Diff
High School Diploma	33.8%	0.9%	36.8%	2.1%	-3.0%	2.3%	1.290	
Less than High School Diploma	14.6%	0.7%	11.9%	1.4%	2.7%	1.6%	1.697	Diff
Don't Know	0.3%	0.1%	1.0%	0.4%	-0.7%	0.5%	1.546	
Non-response	0.4%	0.1%	0.2%	0.2%	0.2%	0.2%	0.859	

Table X-PHE: Psychologists and Social Scientists - Father								
Percentage of Psychologists and Social Scientists whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	20.9%	0.8%	21.4%	1.8%	-0.5%	2.0%	0.252	
Bachelor's Degree	18.6%	0.8%	19.8%	1.8%	-1.2%	1.9%	0.625	
Some College, including Associate's Degree	18.6%	0.8%	16.6%	1.6%	2.0%	1.8%	1.103	
High School Diploma	22.4%	0.8%	22.9%	1.9%	-0.5%	2.0%	0.246	
Less than High School Diploma	18.9%	0.8%	16.8%	1.7%	2.1%	1.8%	1.152	
Don't Know	0.6%	0.2%	2.4%	0.7%	-1.8%	0.7%	2.597	Diff
Non-response	0.3%	0.1%	0.2%	0.2%	0.1%	0.2%	0.445	

Parent's Highest Education Level – Question D23 (cont'd)

Table XI-PHE: Engineers – Mother								
Percentage of Engineers whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	5.9%	0.2%	6.6%	1.1%	-0.7%	1.1%	0.657	
Bachelor's Degree	13.0%	0.3%	14.7%	1.5%	-1.7%	1.5%	1.118	
Some College, including Associate's Degree	20.1%	0.3%	18.2%	1.6%	1.9%	1.7%	1.143	
High School Diploma	40.5%	0.4%	42.6%	2.1%	-2.1%	2.1%	0.988	
Less than High School Diploma	19.5%	0.3%	16.5%	1.6%	3.0%	1.6%	1.875	Diff
Don't Know	1.1%	0.1%	1.4%	0.5%	-0.3%	0.5%	0.596	
Non-response	0.7%	0.1%	0.2%	0.2%	0.5%	0.2%	2.505	Diff

Table XII-PHE: Engineers – Father								
Percentage of Engineers whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	13.2%	0.3%	12.7%	1.4%	0.5%	1.4%	0.349	
Bachelor's Degree	17.8%	0.3%	20.0%	1.7%	-2.2%	1.7%	1.280	
Some College, including Associate's Degree	18.1%	0.3%	16.7%	1.6%	1.4%	1.6%	0.871	
High School Diploma	26.8%	0.3%	27.9%	1.9%	-1.1%	1.9%	0.570	
Less than High School Diploma	23.0%	0.3%	21.1%	1.7%	1.9%	1.8%	1.081	
Don't Know	1.1%	0.1%	1.7%	0.5%	-0.6%	0.6%	1.085	
Non-response	0.5%	0.1%	0.4%	0.3%	0.1%	0.3%	0.367	

Parent's Highest Education Level – Question D23 (cont'd)

59

Table XIII-PHE: Non-scientists and Non-engineers - Mother								
Percentage of Non-scientists and Non-engineers whose mother's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	7.1%	0.1%	5.2%	1.0%	1.9%	1.1%	1.808	Diff
Bachelor's Degree	13.3%	0.1%	17.4%	1.8%	-4.1%	1.8%	2.287	Diff
Some College, including Associate's Degree	22.1%	0.1%	23.5%	2.0%	-1.4%	2.0%	0.698	
High School Diploma	37.9%	0.2%	36.1%	2.3%	1.8%	2.3%	0.792	
Less than High School Diploma	18.7%	0.1%	15.4%	1.7%	3.3%	1.7%	1.932	Diff
Don't Know	0.9%	0.03%	2.5%	0.7%	-1.6%	0.7%	2.170	Diff
Non-response	1.0%	0.03%	0.1%	0.1%	0.9%	0.2%	5.906	Diff

Table XIV-PHE: Non-scientists and Non-engineers – Father								
Percentage of Non-scientists and Non-engineers whose father's highest education level is:	Mail		Telephone		diff	se(diff)	t-stat	result
	estimate	se	estimate	se				
At least some graduate or professional school	15.5%	0.1%	16.4%	1.7%	-0.9%	1.8%	0.514	
Bachelor's Degree	15.6%	0.1%	17.6%	1.8%	-2.0%	1.8%	1.111	
Some College, including Associate's Degree	18.4%	0.1%	13.4%	1.6%	5.0%	1.6%	3.101	Diff
High School Diploma	25.5%	0.1%	28.3%	2.1%	-2.8%	2.1%	1.314	
Less than High School Diploma	23.6%	0.1%	22.5%	2.0%	1.1%	2.0%	0.557	
Don't Know	1.3%	0.04%	1.8%	0.6%	-0.5%	0.6%	0.796	
Non-response	0.7%	0.03%	0.1%	0.1%	0.6%	0.2%	3.963	Diff

## REFERENCES

- [1] Memorandum from Waite to Walsh, "Sample Selection Specifications for the 1993 National Survey of College Graduates (NSCG) - Revised", June 15, 1993
- [2] Memorandum from Waite to Courtland, "Subsample Sample Selection and Interview Mode Code Assignment Specifications for the 1993 National Survey of College Graduates (NSCG)", March 12, 1993
- [3] Memorandum from Tom Moore to Linda Hardy (NSF), "Study Plan for the 1993 National Survey of College Graduates Modal Study", May 10, 1993